APPENDIX A

Engineering Trip Report

Montgomery Reservoir

Field Trip Log

Trip Log Number:	16	**Project No.:**	1003032.01180502
Dates:	6/14/02	**Times:**	0940-1015
Site Name:	New Montgomery	**Location:**	Snelling
Prepared By:	DKR/JMH/WAM	**Reviewed By:**	
Date:	6/14/02	**Date:**	

Attendees/Visitors Name	1.1.1.1.1.1.1 Organization/Phone/Email
DKR	MWH, 925.685.6275 x125, david.k.rogers@ei.mwhglobal.com
JMH	MWH, 925.685.6275 x143, james.m.herbert@ei.mhwglobal.com
WAM	MWH, 425.602.4025 x1060, william.a.moler@ei.mwhglobal.com

Weather Conditions:

Clear, warm (mid 70s), light breeze

Access Route (attach map):

Highway 99, to Keyes Rd / County Road 16 (E) south of Modesto, to Fields Rd (N), or
Highway 99, to State Highway 59 (N) in Merced, to Montgomery St (N), to Fields Rd (N)

Attachments:	Yes	No
Photo Log	✔	
Photos	✔	
Video Log (available)	✔	
Dictation Log (available)	✔	
Topographic Map	✔	

Purpose:

Review proposed location of new damsite.

Field Observations:

Existing Structures/Cultural Features:

There are a few scattered rural residences surrounded by open agricultural land, consisting mostly of grazeland and some orchard crops.

Right of Way/Access Restrictions:

Public roads lead to the axis of the New Montgomery Dam where it crosses Dry Creek. Other portions of the dam axis are on private property and do not appear to be accessible by road.

Overhead/Buried Utilities:

Overhead / underground utilities provide some services to the area.

Description of Proposed Structures (attached a field sketch or sketch on a topo map):

Per URS, the proposed New Montgomery Dam would be located about 3½ miles north of the town of Snelling on Dry Creek, a tributary to the Merced River. The dam would a be a zoned earthfill embankment having a height of up to 101 feet above streambed level, that would store up to 241,000 acre-feet of water at a pool elevation of 325 ft. Eight saddle dams of various lengths would be required above elevation 300 ft. In addition to natural runoff, water would be diverted from the Merced Irrigation District Lake McClure via a two-way facility from Merced Falls Diversion Dam to Montgomery Reservoir. Water would be conveyed south from Montgomery via a new canal to the Madera Canal (URS, 2000).

A Feasibility Design Drawing for Montgomery Day was prepared in 1960 by the USBR. The drawing illustrates a dam similar to that described by URS. The main dam structure would be about 2 miles long and have a height of 101 ft high at the maximum section. The outlet works and pumping plant would be on the right abutment, near the main Dry Creek channel. The spillway, a 10½-ft circular conduit, would be located on the far right of the right abutment, near the main canal outlet works. It appears that seven saddle dams are included in the design (USBR, 1960).

Description of Appurtenant Features (spillways, tunnels, pumping plants, flood routing/coffer dams/dewatering during construction, outlet works, switch yards, transformer yards, transmission lines, conveyance pipelines/canals, access roads, security, operation/maintenance):

The dam illustrated in the USBR drawing would consist of a zoned earthfill embankment structure, 10½-ft diameter circular conduit spillway, canal outlet works, reservoir outlet works and a pumping plant (USBR, 1960).

Briefly Describe Geologic/Geotechnical Site Conditions:

The New Montgomery Dam and Reservoir would be located on rolling topography on sediments of the Great Valley, below the foothills of the Sierra Nevada. The State geologic map and mapping conducted by the USBR shows the dam would rest primarily on Plio-Pleistocene and middle to lower Pliocene non-marine sedimentary units, with Recent alluvial sediments along Dry Creek (CDMG, 1966; USBR 1959).

The Plio-Pleistocene unit is identified as the Turlock Lake formation, which consists of river-laid pebbly sand and gravel, interbedded silt and lake-laid clay. This unit may also contain a blue, diatomaceous unit called the Corcoran Clay. The middle to lower Pliocene unit is identified as the Mehrten formation, which consists of river-laid andesitic (volcanic), sandstone, gravel, conglomerate, siltstone, claystone, and interbedded, altered rhyolitic (volcanic) ash near the base of the unit (CDMG, 1966; USBR 1959).

More eastern portions of the reservoir will lie also on the Miocene Valley Springs formation (river-laid tuffaceous (volcanic) sand, sandy clay, and siliceous sand with interbedded rhyolitic tuff altered to bentonitic clay), and the Eocene Ione formation (a river-laid quartose anauxite-bearing sandstone and conglomerate with sandy clay at base) [CDMG, 1966; USBR 1959].

It is likely the faults of the Sierra Frontal fault system would most likely be the controlling faults for the New Montgomery site. The Foothills Fault System consists of two, subparallel faults known as the Bear Mountain fault, located about 11½ miles east of the site) and the Melones fault, located about 18 miles east of the site. Other regional faults capable of generating significant ground motions at the site include the San Andreas fault system, the White Wolf fault, and the Garlock fault.

Location/Description of Nearest Borrow Areas (attach map or show on topo map):

Construction material studies have not been conducted; however, potential borrow areas are pervious, semi-pervious and impervious fill may exist within the geologic units underlying the dam/reservoir.

Location/Description of Equipment/Material Staging and Lay Down Areas (attach map or show on topo map):

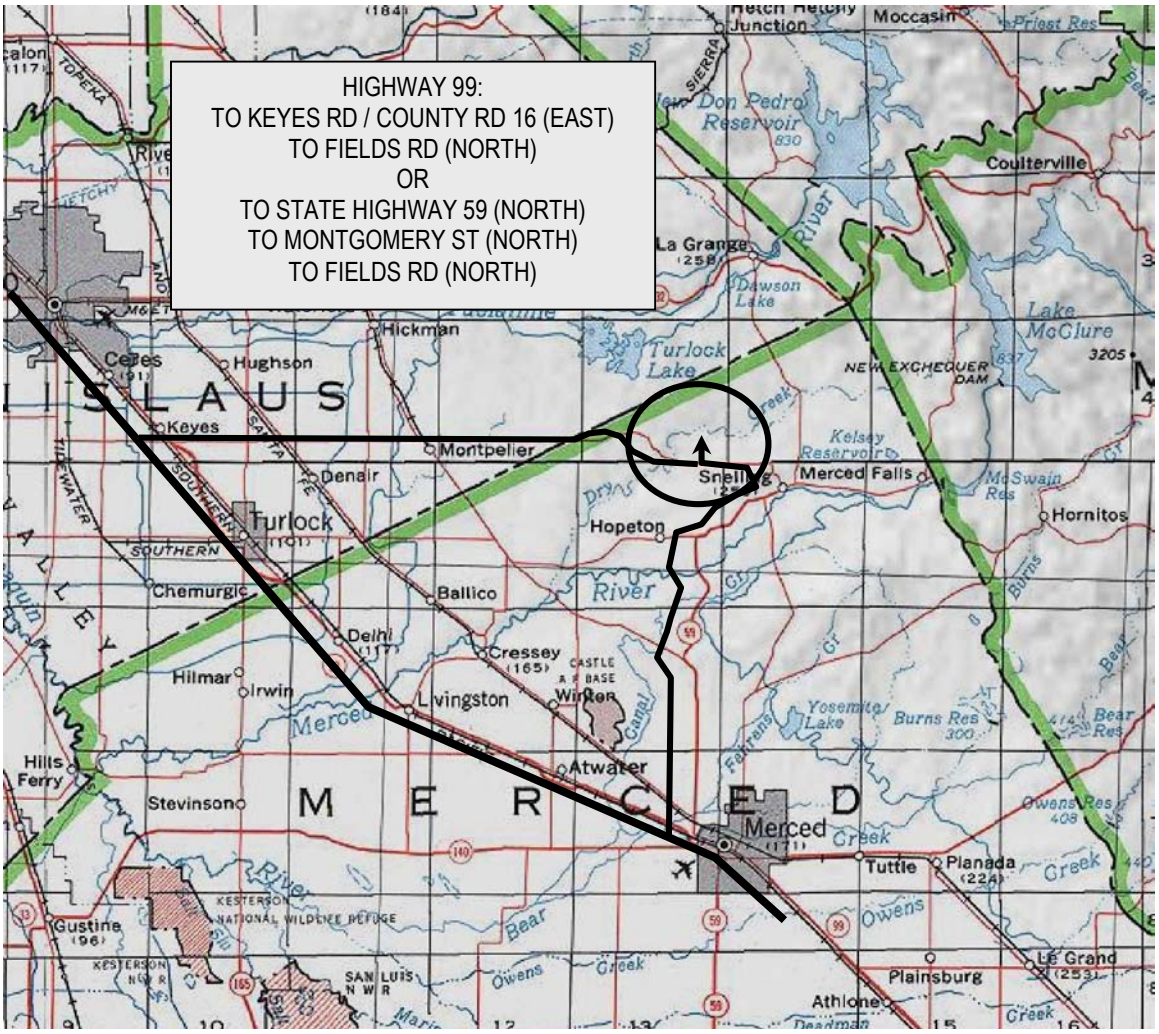
Potential staging and laydown areas may be found in a number of locations around the proposed damsite.

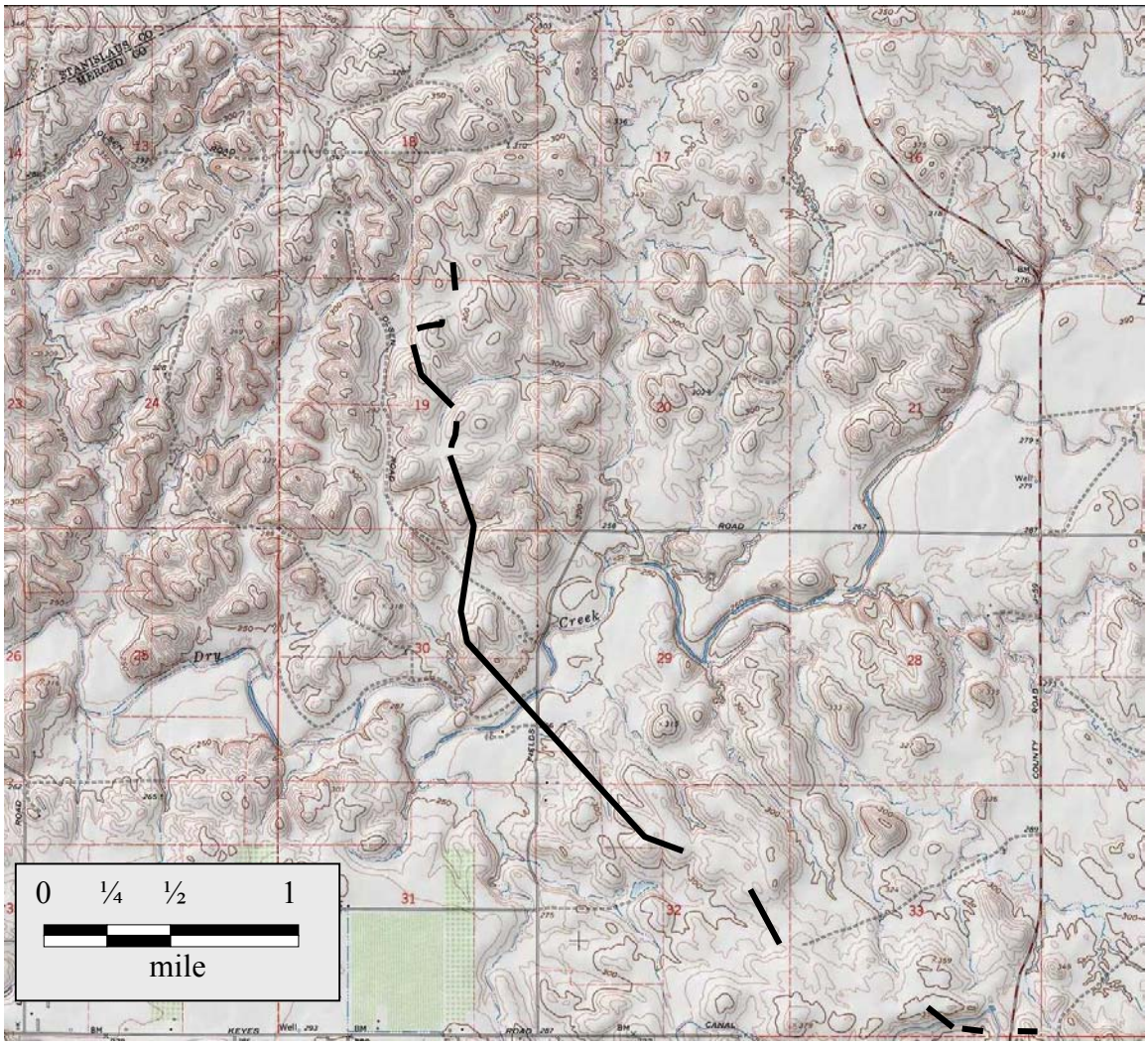
Identification of Environmental Sensitive Areas (wetlands, springs, rivers, streams, endangered/threatened species habitats, etc.):

URS reported that several species of fish, amphibians, and reptiles may occur in the project area. An upland terrestrial wildlife habitat covers most of the project area. In addition, wetland (vernal pool), and aquatic habitats may be found in the project area. Several species of plants and animals native to the area are sensitive and Federal- and State-listed endangered species (URS, 2000).

Description of Mining or Other Anthropologic Activities:

None were noted.




0 ¼ ½ 1
mile
Dry
Creek

Montgomery – Upstream view of Dry Creek from proposed damsite.

Downstream view of Dry Creek from proposed damsite.

Cross-stream view of Dry Creek stream bank at proposed damsite.

Northward view along right abutment alignment from Dry Creek.

Northward view along right abutment alignment from Dry Creek.

Upstream / northeastward view of proposed reservoir area from Dry Creek.